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Abstract

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The Theory of Work Adjustment proposes that vocational satisfaction is a function of the correspondence between the reinforcers in the work environment and the individual's vocational needs. This hypothesis is tested by comparing the means and variances of measures of satisfaction for groups differing in degree of need-reinforcer correspondence. The data were self-report responses of 179 individuals in various occupational positions to questionnaires measuring satisfaction, needs, and reinforcer level on 20 dimensions of work. Statistical tests were performed separately for each of the 20 dimensions. Support for the propostion was found on from 13 to 20 dimensions, depending on the specific statistical hypotheses tested.

Relationship of Vocational Satisfaction to the Correspondence of Job Reinforcement and Vocational Needs

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The Theory of Work Adjustment (Dawis, Lofquist and Weiss, 1968; Dawis, England, and Lofquist, 1964) is a conceptual framework developed for use in vocational counseling. The theory uses the correspondence (or lack of it) between worker personality and the work environment as the principal reason or explanation for observed work adjustment outcomes (satisfactoriness, satisfaction, and tenure). It states further that vocational abilities and vocational needs are the significant aspects of the work personality, while ability requirements and reinforcer systems are the significant aspects of the work environment.

One proposition of the theory states:

> Satisfaction is a function of the correspondence between the reinforcer system of the work environment and the individual's needs, provided that the individual's abilities correspond with the ability requirements of the work environment (Dawis, Lofquist and Weiss, 1968, p. 11)

This propostion implies that maximum job satisfaction, a desirable outcome of vocational counseling, would occur when an individual's vocational needs are matched with the reinforcers in his work environment. Thus, this matching model suggests that vocational counseling should be concerned with matching man and job on the basis of both the counselee's vocational abilities and his vocational needs.

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While measures of vocational needs have been available (Weiss, Dawis, Lofquist and England, 1964a; Weiss, Dawis and Lofquist, 1968), an efficient and valid method of measuring occupational reinforcers has not yet been developed.

There appear to be four major methods of measuring job reinforcers. Use of supervisor ratings, expert ratings and ratings of workers on the job comprise three methods. The fourth method consists of inferring reinforcer level from data on the needs and satisfactions of employees (Weiss, Dawis, England and Lofquist, 1965). A previous study, using ratings of reinforcer level by experts (Weiss, Dawis, England and Lofquist, 1964b) found support for the validity of that method on ten of sixteen reinforcer dimensions studied.

The purpose of the present study was to replicate the earlier study, using a different methodology. While the earlier study used expert ratings of reinforcer level, the present study measured reinforcer level by means of the ratings of workers on the job. As in the earlier study, it was assumed that the abilities of the subjects and the job ability requirements were correspondent (as required by the proposition under investigation) by virtue of the relatively long tenure of the group. This assumption is based on Proposition IX of the Theory of Work Adjustment which states that individual-environment correspondence increases as a function of tenure (Dawis, Lofquist and Weiss, 1968, p. 11).

The major empirical hypothesis under investigation in this study was the following:

1. The average satisfaction of the high-need-low-reinforcement group (HiN-LoR) is less than that of a high-need-high (HiN-HiR) reinforcement group.

This hypothesis derives from the assumption that the correspondence between need and reinforcer level will be higher for the HiN-HiR group than for the HiN-LoR group; hence the difference in job satisfaction.

Several subsidiary empirical hypotheses can also be examined:

2. The variability of satisfaction scores for the high need (HiN) group is greater than that of the LoN group.

This results from the additional assumption that variation in satisfaction scores is related to need-reinforcer correspondence primarily when need is at relatively high strength. In the case of low need, variations in reinforcer level in the work environment are less likely to affect an individual's job satisfaction. The same assumption leads to the following empirical hypothesis:

3. The average satisfaction of the HiN-LoR group is less than that of the LoN-LoR group.

However, assuming that the correspondence of need and reinforcers has at least some implications for even low need individuals leads to the following expectations:

4. The average satisfaction of the LoN-LoR group is less than that of the LoN-HiR group, and
5. The average satisfaction of the LoR group is less than that of the HiR group.

These empirical hypotheses are similar to those examined by Weiss et al. (1964b). If supported, they provide additional support for the Theory of Work Adjustment, and the measuring instruments involved. While the earlier study supported the use of expert ratings as the measure of job reinforcers, confirmation of the hypotheses in the present study would support the validity of employee ratings as a method of measuring job reinforcers.

Method

Instruments

Need level, reinforcer level and satisfaction level were all measured by questionnaires administered to employees on the job. Each of these three variables (need, reinforcer, satisfaction) was measured on each of twenty dimensions. These dimensions are as follows: ability utilization, achievement, activity, advancement, authority, company policies, compensation, co-workers, creativity, independence, moral values, recognition, responsibility, security, social service, social status, supervision-human-relations, supervision-technical, variety, working conditions. The number of items in each scale ranged from three to five, across the three instruments. The three questionnaires were administered to the subjects successively in one setting in the following order: needs, reinforcers, satisfaction.

Need measurement. The instrument used to measure vocational needs was a revision of the Likert form of the Minnesota Importance Questionnaire (MIQ) used in the earlier study (Weiss, et al., 1964a). The only difference between the form used in this study and the earlier MIQ, was that the response categories were changed to reduce ceiling effects. Response categories used (with their scoring weights) were: Not Important(1); Only Slightly Important(2); Important(3); Very Important(4); and Extremely Important(5). The items in the MIQ were the same as in the earlier study.

Reinforcer measurement. Estimated reinforcer level was measured by means of an instrument especially developed for this study. This instrument, the Job Description Questionnaire (JDQ), was a Likert format rating questionnaire, using five categories of response. This questionnaire asked the individual to respond to the following statement: "Does your job provide a person with ...". The items in the JDQ were the items of the MIQ, re-stated to appear as items

descriptive of a job. For example, an item on the Social Service scale was "work where he is of service to others?" The response categories for the JDQ (and their scoring weights) were: Definitely Yes(5); Yes(4); ?(3); No(2); and Definitely No(1). The JDQ consisted of 100 items, five items for each of the 20 scales.

Satisfaction measurement. Job satisfaction was measured by a revision of the Minnesota Satisfaction Questionnaire (MSQ) used in the earlier study. As in the MIQ used in the present study, response categories for the MSQ were revised to reduce ceiling effects. The response categories of the MSQ (and their scoring weights) were: Not Satisfied(1); Only Slightly Satisfied(2); Satisfied(3); Very Satisfied(4); and Extremely Satisfied(5). As for the MIQ, MSQ items were the same as in the previous version of the MSQ.

Subjects

The subjects were 179 employed adults, who held supervisory, research scientist, engineer, technician and clerical/administrative jobs in one company. The modal number of years with the company and number of years on the job were 1.5 years, while the ranges of both were more than 10 years. The modal number of years in the occupation, profession, or line of work was 8 years, while the range was more than 20 years. The group consisted of 149 males and 30 females.

Procedure

For each of the twenty scales separately, the high-need group (HiN) was the lower-third need group. The HiR and LoR groups were defined similarly. Accordingly, the LoN-HiR group was the lower-third-need-higher-third-reinforcement group and the LoN-LoR, HiN-LoR, and the HiN-HiR groups were defined similarly. The dependent variable was measured job satisfaction on the appropriate MSQ scale.

Results

Preliminary to testing the major hypothesis, the scores resulting from the three instruments were cross-correlated. Table 1 shows these results. The product-moment correlations between the JDQ scales and the corresponding MIQ scales were quite low, being between -.20 and .20 on most scales. The same held true for the correlations between the corresponding MSQ and MIQ scales. However, higher correlations were found between the corresponding MSQ and JDQ scales. These 20 correlations had a range of .19 to .77 with a median of .66.

The Hoyt internal consistency reliability coefficients, as shown in Table 2, were above .80 on all but 12 of the 60 scales. The MIQ scales tended to be slightly less internally consistent than the MSQ or JDQ scales.

Table 3 shows the results of the statistical tests performed for each hypothesis, and for each of the twenty scales, while Table 4 gives the means and variances of the satisfaction scores, and the frequencies, for each of the sub-groups studied.

The results of the test of hypothesis 1 (Table 3), indicate that the hypothesis was supported on 18 of the 20 scales. For all scales except Authority (scale 5) and Moral Values (scale 11), Table 4 shows that the mean satisfaction score was significantly higher for the HiN-HiR group, than for the HiN-LoR group. The difference was in the predicted direction for Authority and Moral Values.

Hypothesis 2, tested by Bartlett's test of homogeneity of variance, yielded significant results for 17 of the 20 scales. While the HiN group was more variable than the LoN group on all 20 scales, the differences in variances were not statistically significant at the .05 level on the Independence, Moral Values and Working Conditions scales.

The third hypothesis concerned mean satisfaction differences between the HiN-LoR group, and the LoN-LoR group. Specifically, it was hypothesized that the former group would be less satisfied, on the average, than the latter group. Table 3 shows that statistically significant differences in mean satisfaction scores were obtained on 13 of the 20 scales. In all cases where the difference was statistically significant, mean differences were in the predicted direction. Significant differences were not obtained for Co-Workers, Moral Values, Security, Social Service, Social Status, Supervision-Technical and Working Conditions.

Hypothesis 4 was concerned with differences in satisfaction for the LoN group under different reinforcer levels. Tables 3 and 4 show that the LoN-LoR group was significantly less satisfied than the LoN-HiR group on 18 of the 20 scales, with Independence and Moral Values not yielding significant results. However, all mean differences were in the predicted direction.

The fifth hypothesis stated that the average satisfaction score of the LoR group would be less than that of the HiR group. Table 3 shows that statistically significant differences were obtained on all 20 scales. Table 4 shows that all differences in mean satisfaction scores were in the predicted direction.

All hypotheses were supported for eleven of the scales. These scales were: Ability Utilization, Achievement, Activity, Advancement, Company Policies, Compensation, Creativity, Recognition, Responsibility, Supervision-Human-Relations, and Variety. The least support was obtained on Moral Values, for which the analyses did not support four of the five hypotheses. For Independence and Working Conditions, significant differences were obtained on only three of the five hypotheses. For the remaining scales, significant differences in the predicted direction were observed for four of the five hypotheses.

The relatively high correlations between the JDQ and the MSQ on some scales, suggests that tests of hypotheses 1, 4 and 5 would not be as definitive as test 3. The former three tests involve variation of the reinforcer level for the same need level while the latter test involves the variation of the need level at the low reinforcer level. If reinforcer level is allowed to vary with satisfaction, then it is possible that the difference in mean satisfaction score is due to differences in reinforcer level rather than the differences in satisfaction being the result of need-reinforcer correspondence.

Thus, a conservative interpretation of the results, based on the statistical tests of hypothesis 3, indicate that the Theory of Work Adjustment hypothesis under consideration is supported for 13 of the 20 scales. However, it should be pointed out that hypothesis 2, which does not take reinforcer level into account and hence could not be affected by the correlation between the JDQ and the MSQ, yielded support for the proposition under consideration for 17 of the 20 scales.

Discussion

The high correlations between the MSQ and JDQ scales on some dimensions raises the question: Are satisfaction and reinforcement truly this highly correlated, or are the correlations spuriously high due to the similarity of the methods used in measuring the two variables? A strong argument can be made for the latter possibility since it is easy to imagine that an employee on a job could not adequately discriminate between the reinforcement present on his job and his own satisfaction with the job. On the other hand, it can be assumed that reinforcement and satisfaction are, in fact, highly correlated. In this event, the most crucial test of the proposition is test 3 since the difference in satisfaction means could not be attributed to difference in reinforcer levels. The results showed that this test did provide support for the proposition on more than half of the scales.

The study by Weiss et al. (1964b)showed about the same amount of support for the proposition as this study. The primary difference between the two studies was in the method of measuring reinforcement.

In the context of the Theory of Work Adjustment, the problem of reinforcer measurement can be more clearly defined. One purpose of the theory is to shed light on discovering methods of measuring job reinforcement (which is assumed to be relatively constant for certain job classifications), worker satisfaction, and worker needs such that this information can be applied in a vocational counseling situation. Here the counselee would be administered a need questionnaire, and from his responses and previously obtained job reinforcer measurements the counselor would determine the occupations which would probably provide maximal satisfaction for the individual. Thus the most valid measurement of reinforcement is that which provides, in conjunction with the measured needs, the best prediction of worker satisfaction for individuals not yet on the job. The main point here is that within this context nothing is implied about the relationship of job reinforcement and worker satisfaction. It is not necessary for the two variables to be highly independent. Therefore, the fact that responses to the reinforcer and satisfaction questionnaires used in this study are highly correlated on some scales does not in itself invalidate either of the questionnaires.

The best answer to reinforcer measurement may lie in still another method. In regards to the general problem of job reinforcer measurement, it should be noted that an important consideration lies in the relative magnitudes of the within job classification reinforcer variance and the between job classification reinforcer variance. Presumably, it would be desirable to minimize the former and maximize the later. In order to evaluate a method of reinforcer measurement in these terms, it would be necessary to measure both sources of variance.

The worker questionnaire method (as applied in the JDQ) would lend itself well to this demand while the usual method of ranking jobs by experts would require modification so as to include some means of obtaining within job reinforcer variance.

Conclusions

This study lends further support to the Theory of Work Adjustment which states that job satisfaction is a function of the correspondence between employee needs and the reinforcement present in the work environment. The results support the previous study by Weiss, et al. (1964b), in finding mean satisfaction scores lower for a "high need" group in a "high reinforcement" job environment, than for a "low need" group in a similar environment. The results also support the validity of measuring reinforcer level by estimations derived from employee ratings using the Job Description Questionnaire. Furthermore, additional support was obtained for the Minnesota Importance Questionnaire as a measure of vocational needs, and the Minnesota Satisfaction Questionnaire as a measure of job satisfaction.

Table 1

Cross-correlations of the scales on the MIQ, MSQ and JDQ for each of the twenty dimensions.

Scale	MIQ/JDQ	MIQ/MSQ	MSQ/JDQ
1. Ability utilization	-02	00	75
2. Achievement	05	03	63
3. Activity	22	17	59
4. Advancement	05	-14	74
5. Authority	40	-06	20
6. Company policies	02	-09	66
7. Compensation	-28	-28	80
8. Co-workers	-22	31	67
9. Creativity	-16	00	67
10. Independence	20	00	20
11. Moral values	31	23	19
12. Recognition	00	-06	74
13. Responsibility	18	-02	54
14. Security	-03	04	59
15. Social service	24	18	44
16. Social status	19	-06	31
17. Supervision-hum.-rel.	04	09	77
18. Supervision-technical	09	24	73
19. Variety	-06	-14	71
20. Working conditions	-03	-01	53

Note: decimal points are omitted.

Table 2

Hoyt reliability coefficients for the MIQ, JDQ, and MSQ,

on each of the twenty scales

Scale	MIQ	JDQ	MSQ
1. Ability utilization	83	91	96
2. Achievement	75	83	86
3. Activity	90	76	91
4. Advancement	91	95	95
5. Authority	91	93	85
6. Company policies	85	86	81
7. Compensation	74	87	95
8. Co-workers	86	70	89
9. Creativity	73	91	91
10. Independence	88	69	82
11. Moral values	74	57	86
12. Recognition	79	88	92
13. Responsibility	75	80	89
14. Security	89	73	83
15. Social service	90	85	88
16. Social status	79	81	87
17. Supervision-hum.-rel.	73	89	89
18. Supervision-technical	72	82	90
19. Variety	66	89	93
20. Working conditions	82	85	89

Note: decimal points are omitted.

Table 3

The alpha levels exceeded (if .05 or less)

for the tests of the five hypotheses [1]

Scales	Test 1 HiN-LoR vs. HiN-HiR	Test 2 HiN vs. LoN	Test 3 HiN-LoR vs. LoN-LoR	Test 4 LoN-LoR vs. LoN-HiR	Test 5 LoR vs. HiR
1. Ability utilization	.001	.01	.01	.001	.001
2. Achievement	.001	.001	.05	.001	.01
3. Activity	.001	.001	.05	.01	.001
4. Advancement	.001	.05	.01	.001	.001
5. Authority	...	.01	.05	.05	.05
6. Company policies	.001	.001	.001	.001	.001
7. Compensation	.001	.001	.05	.001	.001
8. Co-workers	.001	.05	...	.01	.001
9. Creativity	.001	.01	.05	.001	.001
10. Independence	.001	...	.01	...	.01
11. Moral values	...	...	...	...	.01
12. Recognition	.001	.001	.001	.001	.001
13. Responsibility	.001	.05	.05	.01	.001
14. Security	.001	.001	...	.01	.001
15. Social service	.001	.001	...	.05	.001
16. Social status	.001	.01	...	.05	.001
17. Supervision-hum.-rel.	.001	.001	.01	.001	.001

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Table 3 continued

Scales	Test 1 HiN-LoR vs. HiN-HiR	Test 2 HiN vs. LoN	Test 3 HiN-LoR vs. LoN-LoR	Test 4 LoN-LoR vs. LoN-HiR	Test 5 LoR vs. HiR
18. Supervision-technical	.001	.001	...	.001	.001
19. Variety	.001	.01	.001	.001	.001
20. Working conditions	.05	...	...	.001	.001

[1] Test 2 was a variance ratio test; the other 4 tests were t-tests.

Table 4

Number of individuals, Mean and Variance of satis
twenty scales, for need and/or reinf

	Needs (MIQ)						Need-Reinforcer Combinati							
	HiN			LoN			HiN-LoR			HiN-HiR			LoN-L	
Scale	N	Mean	Var	N	Mean	Var	N	Mean	Var	N	Mean	Var	N	Mean
1	72	14.6	29.8	65	14.4	15.8	21	8.2	5.4	24	18.8	17.1	22	11.0
2	58	15.4	19.1	62	15.1	6.9	17	11.1	11.5	21	18.0	14.1	23	13.1
3	61	17.6	19.5	68	15.7	6.0	13	12.6	17.4	29	20.1	12.1	26	15.0
4	66	11.7	17.4	49	13.5	9.2	26	8.5	8.5	26	15.1	9.7	18	11.1
5	59	14.6	8.3	37	15.3	3.4	6	13.0	16.4	29	15.0	6.2	24	15.0
6	57	14.2	12.0	57	14.9	4.0	21	11.3	4.1	16	16.7	11.3	23	13.7
7	76	11.9	19.1	47	14.4	4.7	33	8.8	9.4	20	16.7	9.8	8	11.2
8	74	17.8	13.3	58	15.7	8.4	21	15.3	12.7	30	20.0	7.6	31	14.4
9	47	15.6	27.3	56	15.5	12.2	15	10.9	22.9	19	19.3	10.2	24	13.4
10	58	15.5	9.6	50	15.7	7.3	13	12.9	8.1	25	16.6	6.4	25	15.6
11	68	19.1	13.7	52	17.1	9.2	17	18.0	13.4	44	19.6	14.3	27	16.7
12	62	14.3	17.8	65	14.7	7.8	21	9.9	11.4	18	17.0	8.8	23	13.0
13	59	15.2	17.9	66	15.0	10.7	14	11.4	17.7	24	17.2	8.7	20	13.9
14	50	15.2	10.9	57	14.8	4.0	23	13.3	7.0	13	17.2	8.3	22	13.8
15	66	15.8	15.2	41	15.1	1.7	19	13.2	12.4	25	18.3	13.1	21	14.7
16	52	14.5	6.5	69	15.1	3.2	14	12.8	7.9	21	15.6	5.0	32	14.5
17	59	16.8	30.4	49	15.8	7.7	21	11.2	15.1	21	20.9	12.6	19	13.8
18	85	17.1	21.5	50	15.5	8.9	25	12.1	11.4	31	20.2	11.5	16	13.3
19	54	14.9	31.2	43	15.9	12.9	15	8.5	20.0	18	18.7	12.7	15	13.5
20	53	17.7	14.0	43	18.4	12.5	22	16.2	13.6	21	18.9	13.6	12	15.9

Table 4

Variance of satisfaction scores on each of the need and/or reinforcer sub-groups.

nforcer Combinations							Reinforcer (JDQ)					
R		LoN-LoR			LoN-HiR		LoR			HiR		
	Var	N	Mean	Var	N	Mean	Var	N	Mean	Var	N	Mean	Var
3	17.1	22	11.0	10.5	24	16.7	6.9	59	9.8	9.4	60	17.6	12.8
	14.1	23	13.1	3.5	15	16.3	3.1	57	12.3	8.1	51	17.0	9.2
	12.1	26	15.0	2.4	15	17.4	13.0	53	13.9	9.2	57	18.4	13.2
	9.7	18	11.1	11.6	20	14.7	1.0	70	9.7	9.4	73	15.4	7.1
	6.2	24	15.0	.7	6	17.0	15.6	63	14.3	6.5	58	15.3	6.0
	11.3	23	13.7	3.2	11	16.3	3.0	61	12.3	5.6	44	16.5	10.0
	9.8	8	11.2	5.6	21	15.3	.6	59	9.5	7.5	56	16.1	6.4
	7.6	31	14.4	3.9	10	17.4	14.3	75	14.7	7.0	53	18.9	9.3
	10.2	24	13.4	8.9	14	17.9	12.1	64	12.4	15.1	59	18.8	9.7
	6.4	25	15.6	5.3	10	16.3	20.5	64	14.8	6.4	58	16.1	8.8
	14.3	27	16.7	10.5	11	17.9	9.1	60	17.4	12.0	82	19.0	13.3
	8.8	23	13.0	5.2	15	17.2	12.0	62	11.3	9.5	45	16.8	8.3
	8.7	20	13.9	8.9	13	16.6	9.3	61	13.2	10.4	58	17.1	10.4
	8.3	22	13.8	3.8	14	15.9	4.9	73	13.6	5.9	55	16.7	5.6
	13.1	21	14.7	2.0	7	16.0	2.3	64	14.2	5.9	54	16.9	8.7
	5.0	32	14.5	2.8	16	15.7	6.2	62	13.8	7.5	59	15.4	4.6
	12.6	19	13.8	3.5	14	17.9	10.0	66	12.9	10.3	55	19.1	12.2
	11.5	16	13.3	9.3	14	17.4	7.6	59	12.6	10.7	55	19.1	11.1
	12.7	15	13.5	8.3	12	18.3	15.5	59	11.8	16.6	56	18.1	10.9
	13.6	12	15.9	3.5	21	20.0	12.6	70	15.8	8.9	73	19.3	11.3

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